

## REMARKS/ARGUMENTS

In the specification, an amendment directing entry of the substitute sequence listing filed on January 23, 2004 has been made to perfect sequence compliance. Also in the specification, the first paragraph has been amended to reflect the updated status of non-provisional application 09/573,684.

Claims 1-28 are pending. Claims 29-32 have been canceled.

The Examiner restricted the claims into six sets of claims and required, under 35 U.S.C. § 121, that the application be restricted to only one of the sets of claims:

- I. Claims 1-7 and 15-21, drawn to a method for detecting and determining the quantity of bacteria that oxidize ammonia to nitrite using a probe comprising SEQ ID NO:5 and variants thereof, classified in class 435, subclass 6.
- II. Claims 1-7 and 15-21, drawn to a method for detecting and determining the quantity of bacteria that oxidize ammonia to nitrite using a probe comprising SEQ ID NO:8 and variants thereof, classified in class 435, subclass 6.
- III. Claims 8-14 and 22-28, drawn to a method for detecting and determining the quantity of bacteria that oxidize ammonia to nitrite using a probe comprising SEQ ID NO:21, classified in class 435, subclass 6.
- IV. Claims 29-30, drawn to a DNA chip comprising a probe comprising SEQ ID NO:5, classified in class 422, subclass 68.1.
- V. Claims 29-30, drawn to a DNA chip comprising a probe comprising SEQ ID NO:8, classified in class 422, subclass 68.1.
- IV. Claims 31-32, drawn to a DNA chip comprising a probe comprising SEQ ID NO:21, classified in class 422, subclass 68.1.

In response to the restriction requirement, Applicant hereby provisionally elects, with traverse, to continue prosecution of the claims identified in Group I. However, Applicant respectfully traverses the restriction requirement and respectfully requests reconsideration and withdrawal of the restriction requirement as set forth below.

Applicant submits that a full and complete examination of the claims identified in Group I will also include examination of the claims identified as Groups II and III. More specifically, Applicant respectfully submits that the claims of Group I should not be examined separately from the claims of Groups II and III because the two groups of inventions are directed to similar bacterial strains. Thus, the search and examination of all the claims in an application can be made without serious burden.

Applicant respectfully submits that the subject matter of Groups I, II, and III are sufficiently related and are all based on nucleotide sequences of saltwater ammonia-oxidizing bacterial strains. This significantly narrows the area of art in which the Examiner needs to search. Furthermore, the claims of each group center on essentially similar claim elements, the main difference being the particular nucleotide sequence being used. Each nucleotide sequence is claimed as sharing the common utility of oxidizing ammonia to nitrite and each method yields a result directed to that feature. As such, a thorough search and examination of any one claim set would necessarily encompass the search and examination of the remaining claims. In this regard, it is also respectfully noted that, the claims of Groups I, II and III have not acquired a separate status in the art as shown by the fact that the current Office Action indicates that the inventions of each group are "classified in class 435, subclass 6."

In addition, Groups I and II derive from a Markush group including SEQ ID NO:5 and SEQ ID NO:8. When a Markush group occurs in a claim reciting a process, it is sufficient if the members of the group are disclosed in the specification to possess at least one property in common which is mainly responsible for their function in the claimed relationship. MPEP § 803.02. Here, each of the bacterial strains are directed towards salt-water strains with ammonia-oxidizing capabilities. "If the members of the Markush group are sufficiently few in number or so closely related that a search and examination of the entire claim can be made without serious burden, the examiner must examine all the members of the Markush group in the claim on the merits, even though they may be directed to independent and distinct inventions." MPEP § 803.02.

Furthermore, pursuant to decision issued in *Examination of Patent Applications Containing Nucleotide Sequences*, 1192 O.G. 68 (November 19, 1996), the Director has decided *sua sponte* to partially waive the requirements of 37 C.F.R. 1.141 *et seq.* and permit "a reasonable number of such nucleotide sequences to be claimed in a single application." MPEP §

803.04. It has been determined that normally ten sequences constitute a reasonable number for examination purposes. MPEP § 803.04 states that "up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction."


Accordingly, it is strenuously urged that the Restriction Requirement be withdrawn. Nevertheless, to the extent it is not, the Applicant provisionally elects, with traverse, the claims of Group I (claims 1-7 and 15-21), and will make appropriate amendments in the next response to office action. The Applicant also reserves the right to later file one or more divisional applications directed to the subject matter of the non-elected/cancelled claims.

An action on the merits is respectfully requested.

Respectfully submitted,

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